

WAYNE COUNTY BRIDGE 122  
Spanning the West Fork of Whitewater River  
on Main Street  
Milton vicinity  
Wayne County  
Indiana

HAER No. IN-85

HAER  
IND  
89-MILT.V,  
3-

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD  
National Park Service  
Northeast Region  
Philadelphia Support Office  
U.S. Custom House  
200 Chestnut Street  
Philadelphia, P.A. 19106

HISTORIC AMERICAN ENGINEERING RECORD

WAYNE COUNTY BRIDGE 122

HAER NO. IN-85

HAER  
IND  
89-MILT.V,  
3-

Location:

Spanning the West Fork of Whitewater River on Main Street  
Milton vicinity  
Wayne County  
Indiana

UTM: 16.658280.4405530  
Quad: Cambridge City

Date of Construction:

1881

Construction Company:

The Morse Bridge Company

Present Owner:

Wayne County

Present Use:

Vehicular and pedestrian traffic

Significance:

A product of Hoosier design, then fabricated by a noted Ohio firm, this almost unique heavy truss retains its original members, including its latticed guardrails.

Project Information:

This documentation was undertaken in July, 1994 in accordance with the Memorandum of Agreement by the Wayne County Board of Commissioners, the Indiana Department of Transportation and the Federal Highway Administration as a mitigative measure prior to the demolition and replacement of the bridge.

Aaron Davenport  
BUTLER, FAIRMAN and SEUFERT, INC.  
9405 Delegates Row  
Indianapolis, IN 46240

## WAYNE COUNTY BRIDGE 122

HAER NO. IN- 85 (Page 2)

Wayne County Bridge 122 spans the West Fork of the Whitewater River which flows through the western portion of Wayne County in a north to south direction. Riparian woods and agricultural land borders the majority of the West Fork of the Whitewater River, throughout the County. A lack of significant relief makes the land along this waterway conducive to farming activities, which is typical of many waterways in Wayne County. The natural drainage of the area is towards the West Fork of the Whitewater River.

Wayne County Bridge 122 is a single span, double-intersection Pratt (Whipple) through truss. The structure was designed by Frank C. Doran, a civil engineer from Richmond, Indiana and was fabricated by the Morse (later Youngstown) Bridge Company of Youngstown, Ohio.

Built in 1881, Wayne County Bridge 122 is 64.9 meters in length and has a deck width of 5.3 m. This high and heavy truss (estimated 34,020 kilograms of wrought iron) has fourteen panels with intermediate verticals of two large sizes of laced channels with reinforcing pin plates, above and below, riveted inside the channels. Double die-forged eyebars serve as diagonals; those with turnbuckles cross the two most central panels from the center pin. Two die-forged eyebars make up the lower chord for the first three panels from each abutment; four serve in the more central panels. U-bolted to the lower pins, girder floor beams support an asphalt-over-timber deck. Wayne County Bridge 122 retains its original members including the latticed guardrail.

The existing bridge plaques identify the County officials, designer, builder and date:

Erected  
1881  
By Order of  
Thomas Hunt  
James W. Martindale John Brown  
Commissioners for Wayne County  
Indiana  
Designed By Frank C. Doran Civil Engineer  
Richmond, Ind.  
Morse Bridge Company  
Builders  
Youngstown Ohio

Available recreational activities at this historic property include sightseeing, (looking at and away from the bridge), canoeing and fishing. No historic photographs of the bridge were found.

Events leading to the construction of this bridge were discovered in minutes from Board of Commissioners meetings in 1881. According to the minutes taken, the public demanded a special session of the Board of Commissioners for the purpose of accepting proposals for a bridge over the West Fork of the Whitewater River, in Milton. Three proposals were submitted for the construction of the approaches, foundation and masonry, with Augustus Boden, of Cambridge City, Wayne County, Indiana, being selected. The accepted bid to complete the necessary work was \$7,912.20 to prepare the cut stone abutments and wingwalls and \$2,425.76 to build the approaches. Detailed cost estimates indicated the following: earthwork at \$21.75 per cubic yard, stone revetting or paving at \$14.75 per square foot and stone retaining wall laid dry at \$3.75 per cubic yard. The minutes also indicated that all approach work was to be underway within 5 days of the signing of the contract (contract signed May 6, 1881 - work to begin May 11, 1881) and completed by September 5, 1881. No cost information for the bridge was described in the Commissioners minutes.

The bridge was manufactured and constructed by the Morse Bridge Company of Youngstown, Ohio. The Morse Bridge Company was established by two brothers, Charles J. and Henry G. Morse, at Haselton in 1878.

Henry Morse was from Poland, Ohio, and trained as a civil engineer at Rensselaer Polytechnic Institute, Troy, New York, and worked just prior to forming his firm with the Wrought Iron Bridge Company, of Canton, Ohio. Charles was also an engineer, but was trained at Yale University.

The Morse Bridge Company was also closely linked with the iron industry. The plant was immediately adjacent to a steel mill and the original officers of the company included several iron company administrators and bankers. They became the favorite builders of the county government in the 1880's.

Morse Bridge Company's work was not innovative. It was operated by shrewd businessmen interested in solid work that guaranteed high profit margins and avoided risky ventures. The company strove to limit the adverse effects of competition by joining in the formation of "pools," or what would today be called "cartels," with other bridge building companies. These were formal agreements with specific formulas to ensure a certain profit margin and eliminate most unknown quantities. This "price fixing" was not an unreasonable response to the competitive times.

The Morse Bridge Works in Haselton was set up like many late 19th century firms. The firm had defined areas for office activities, the creation of wooden patterns, heating metal, shaping metal and also a large shop space for the erection of trusses.

The plant had a disastrous fire in late 1887 or early 1888 and the firm closed. The Morse plant site was sold to the newly formed Youngstown Bridge Company. Henry Morse moved to Delaware and formed the Edgemoor Bridge Company, which became a major bridge firm in the 1890's. Charles Morse moved to Chicago.

There is no record of the bridge being called by any name other than the Bridge over the West Branch or Fork of the Whitewater River at Milton. The bridge was designated as Bridge 122 in recent history, when all bridges in Wayne County were numbered.

No records were found which described any special conditions or technology in the construction of Wayne County Bridge 122. Machinery and tools were probably similar to those used by other bridge manufacturers of that time.

No significant events or persons are known to be connected with this bridge. The bridge was constructed as part of a highway improvement project. Local and regional economic and social conditions were not significantly affected by the construction of any one bridge in this part of the county. However, collectively, the bridges spanning the West Fork of the Whitewater River provided shorter travel distances, thus, decreasing trip time and costs for travelers, farmers and later, motorists, in the western portion of Wayne County.

BIBLIOGRAPHY

Bridge Nameplate

Wayne County Commission Records  
Wayne County Courthouse  
401 E. Main Street  
Richmond, IN 47374

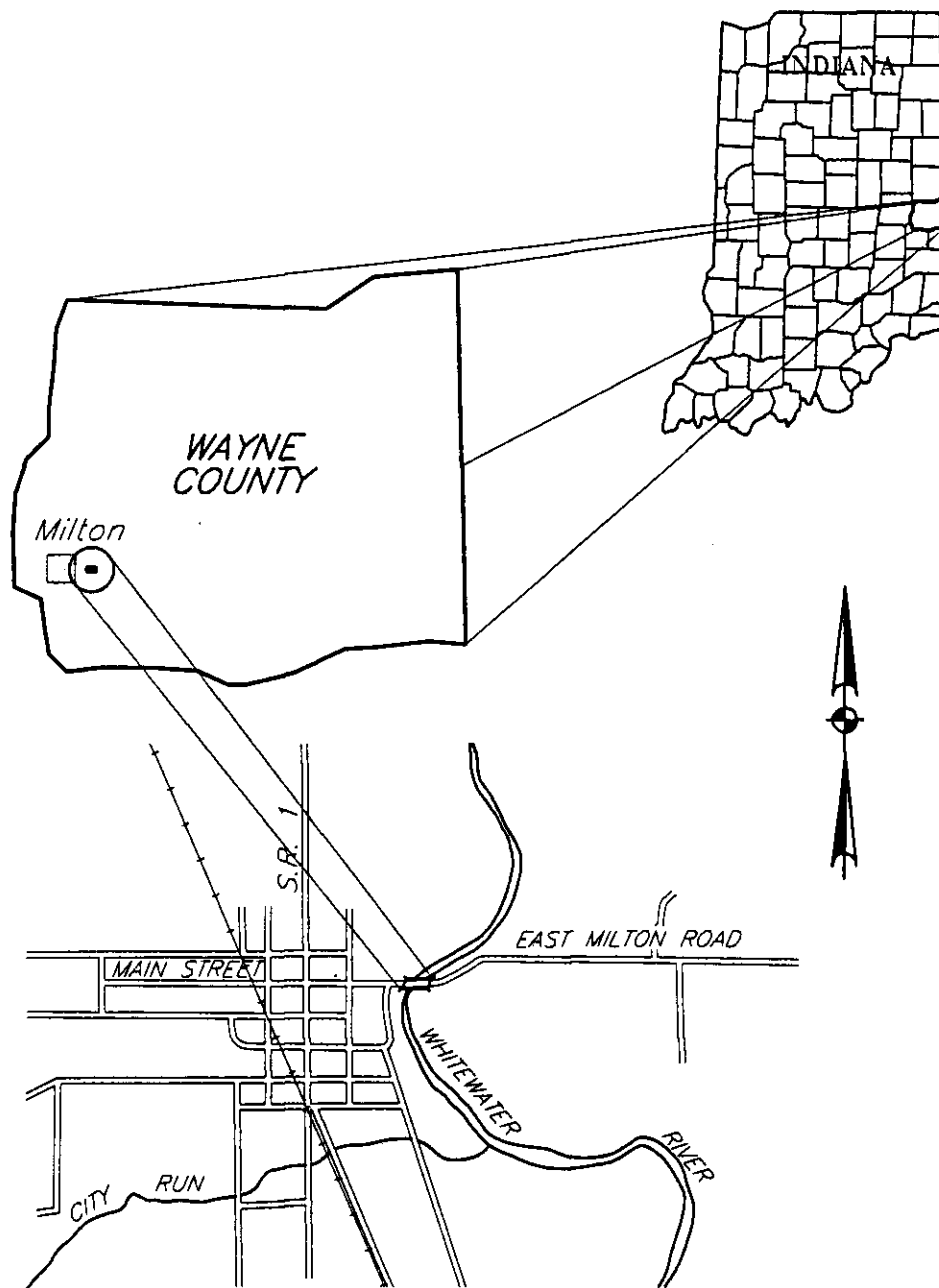
Butler, Fairman and Seufert, Inc., Bridge Inspection/Reinspection Report: Wayne County,  
(Indianapolis, 1973, 1979)

Cooper, James L., Iron Monuments to Distant Posterity, Indiana's Metal Bridges, 1870-1930, 1987,  
pgs. 196-197

Engineering News, VIII (May 21, 1881), 210

Indiana Historic Sites and Structure Inventory, Wayne County: Interim Report (Indianapolis, 1981),  
103-104

Simmons, David A., Remarks at Iron Bridge Symposium, Poland, Ohio, May 2, 1987



SITE  
LOCATION MAP

Scale: 1"=2000'